Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Summit West Oil, LLC
Well Name/Number: Milford Colony #13-11
Location: SW SW Section 11 T18N R5W
County: Lewis and Clark, **MT; Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)
Long drilling time: No, 15 to 20 days drilling time.
Unusually deep drilling (high horsepower rig): No, single derrick drilling rig to drill surface casing hole to 890'. Larger drilling rig will be moved in at a later date to drill the 7" intermediate hole and the horizontal lateral of 14,100'MD/8,800'TVD in the Bakken Formation.
Possible H2S gas production: Yes, slight chance from the Madison/Lodgepole Formation.
In/near Class I air quality area: No Class I air quality area, in the area of review.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:
_X Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
X Other: Summit West Oil, LLC will provide a sundry notice for the new drilling contractor when it is determined along with additional information concerning drilling rig layout, BOP, mud tanks, pit liner, drilling fluids, directional plan, H2S alarm etc.

Comments: No special concerns – using small rig to drill to drill the surface hole to 890' and set surface casing. A larger rig will be contracted at a later date to drill the intermediate casing hole and set 7" casing and drill the 14,100'MD/8,800'TVD single lateral horizontal well test in the Bakken Formation. If there are existing pipeline for natural gas in the area then gas must be tied into system or if no gathering system nearby gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)
Salt/oil based mud: No, air, air mist and/or freshwater mud system on surface hole, rule 36.22.1001. Mainhole and horizontal lateral will be drilled with freshwater and freshwater mud system.
High water table: Possible high water table at this location, due to the locations proximity to the irrigation canal and Flat Creek.
Surface drainage leads to live water: Yes, nearest drainage is Flat Creek, about 1/16 of a mile to the southeast and about a 1/16 of a mile to the southwest from this location. Nearest live water is a diversion canal for irrigation, about 100' to the southeast from this location.
Water well contamination: No, closest water wells are about 1/8 of a mile to the east, about ¼ of a mile to the north, about 3/8 of a mile to the north, about 3/8 of a mile to the north northeast and about 5/8 of a mile to the northeast from this location. Depth of these stock, domestic and public water supply wells range from 94' to 494'. This well will

drill to 890' with air/air mist or freshwater drilling fluid and set about 890' of steel surface casing and cement it back to surface to protect surface and ground waters, rule 36.22.1001.
Porous/permeable soils: Yes, porous, gravelly sandy soils.
Class I stream drainage: Possible Class I stream drainage, Flat Creek, in the area of review.

Mitigation:
__ Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
__ Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)
__ Other: _____

Comments: Adequate surface casing, 890' of surface casing will be set and cemented to surface to protect freshwater zones. Surface casing is set below all nearby freshwater wells. Also, air/air mist and/or fresh water mud systems to be used, rule 36.22.1001. Location is in Flat Creek flood plain and is set back from the creek, about 1/16 of a mile. After surface casing is set, current drilling rig will be moved off and a bigger drilling rig will be contracted. Depending upon the drilling fluid system, the new drilling pits may be required to be lined or a pitless mud system to be used.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No, no stream drainages will be crossed.
High erosion potential: No, small cut, up to 1.4' and small fill, up to 2.1', required.
Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, 300'X400' location size required.
Damage to improvements: Slight, surface use is nonagricultural land, appears to be hay storage area.
Conflict with existing land use/values: Slight, surface use is nonagricultural land, appears to be hay storage area.

Mitigation
__ Avoid improvements (topographic tolerance)
__ Exception location requested
X Stockpile topsoil
__ Stream Crossing Permit (other agency review)
X Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
__ Other _____

Comments: Access will be over existing highway, US #287and existing private gravel road. No access needs to be built into this location because the private gravel road leads to this location. Drilling and reserve pit will be unlined earthen pits for the drilling of the surface hole. Reserve pit and drill pit fluids and cuttings will be allowed to dry in the pits. Once pits are dry, they will be filled with subsoil and the topsoil will be the last cover. When the drilling contractor for the intermediate and horizontal lateral has been selected a sundry notice must be filed with the Montana Board of Oil and Gas modifying the rig layout, surface pits, drilling fluid system, pit liner, BOP stack, H2S contingency plan if necessary, etc. No special concerns

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Closest residence is about 3/8 of a mile to the northeast, the Milford Hutterite Colony, from this location.
Possibility of H2S: Possible H2S from the Madison/Lodgepole Formation.
Size of rig/length of drilling time: drilling rig/short 15 to 20 days drilling time.

Mitigation:
_X_ Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
X Other: Minimum H2S safety equipment required are H2S safety alarm and fresh air packs when drilling the Madison formation to total depth.

Comments: Adequate surface casing and working BOP should mitigate any problems, rule 36.22.1014. No concerns.

Wildlife/recreation

(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites: Lewis and Clark National Forest boundary is 16 miles to west from this location.
Creation of new access to wildlife habitat: No, none.
Conflict with game range/refuge management: No, none.
Threatened or endangered Species: Species identified as threatened or endangered are the Grizzly Bear, Canada Lynx, Bull Trout and Black-footed Ferret. Candidate species are the Sprague's Pipit and the Whitebark Pine. Proposed species is the Wolverine. NH tracker website lists three (3) species of concern, Golden Eagle, Bobolink and Northern Redbelly Dace.

Mitigation:
__ Avoidance (topographic tolerance/exception)
__ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other:_____

Comments: Private surface land. There may be species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites: None identified.

Mitigation
__ avoidance (topographic tolerance, location exception)
__ other agency review (SHPO, DSL, federal agencies)
__ Other:_____

Comments: Private surface land. There may be possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

__ Substantial effect on tax base

__ Create demand for new governmental services

__ Population increase or relocation

Comments: Wildcat well. Until production is established no social or governmental impacts can be determined. No concerns.

Remarks or Special Concerns for this site

No, single derrick drilling rig to drill surface casing hole to 890'. Larger drilling rig will be moved in at a later date to drill the 7" intermediate hole and the horizontal lateral of 14,100'MD/8,800'TVD in the Bakken Formation.

Summary: Evaluation of Impacts and Cumulative effects

No significant impacts expected in the drilling of this well. Some short term surface impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki _____
(title:) Chief Field Inspector
Date: July 23, 2013
Other Persons Contacted:

_____
Montana Bureau of Mines and Geology, GWIC website _____
(Name and Agency)
Lewis and Clark County water wells.
(subject discussed)
July 22, 2013 _____
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Lewis and Clark County
(subject discussed)

July 22, 2013
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3 mammals, fish and birds T18N R5W
(subject discussed)
July 22, 2013
(date)

Montana Cadastral Website
(Name and Agency)
Surface Ownership and surface use Section 11 T18N R5W
(subject discussed)
July 22, 2013
(date)

If location was inspected before permit approval:
Inspection date: July 23, 2013
Inspector: Mr. Gary Klotz
Others present during inspection: Milford Colony Farm Boss